Chapter 4
Earth Resources

Only sections or other elements of Chapter 4 revised for the Final EIS are included here. These changed sections combined with the unchanged sections of Chapter 4 in the Draft EIS constitute Chapter 4 of the Final EIS. Please see the introduction to the "Changes Made in the Draft EIS in Response to Comments" section for a full explanation.

The following changed elements of Chapter 4 are presented on the indicated pages. All other sections of Chapter 4 remain unchanged from the Draft EIS. Please consult the Draft EIS for those sections.

Changed Section **Page**

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4.1.4.3 Upland Discharge: Existing Conditions

The upland discharge study area is located southeast of the City of Carnation. Site elevations range between 120 feet MSL at the northern portion of the area to over 200 feet MSL on the southern half of the site. Most of the soils on the site are Everett soils, a well-drained soil underlain by gravelly glacial outwash, suitable for infiltration. Associated soils include Alderwood, Bellingham, and Ragnar (see Table 4-1). Although King County was unable to gain access to the study area, borings at the adjacent City-owned landfill site and logs from nearby wells showed that this soil/outwash layer was about five to fifteen feet thick at locations near the study area.

The borings and well logs also revealed that a much less permeable layer of silty sands underlies the soil and outwash gravel. This layer is saturated, forming a water table aquifer that probably also exists beneath some or all of the study area.

The borings and well logs showed two other layers beneath the water table aquifer. A clay-rich layer immediately underlays the aquifer. This layer forms a confining layer for the water-bearing sediments below it. These sediments form a confined aquifer (Carollo, 2004).

Portions of the southern leg of the site contain mapped erosion hazard areas, and a small area at the southernmost corner of the site is a designated landslide hazard area (King County, 1990).

4.2.5 No Action Alternative

Under the No Action Alternative, no project construction or associated impacts on earth resources would occur. Wastewater would continue to be discharged to the soil through on-site septic systems, resulting in less treatment than would be provided by the treatment plant. Properly functioning on-site septic systems would treat wastewater through soil filtration. Failing on-site septic systems would provide little or no treatment, resulting in direct discharge of wastewater into groundwater in many cases. As a result, groundwater contamination would continue and increase (Brandon 2004). Continued reliance on aging on-site septic systems could result in failures during seismic events.

4.5 References

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